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TITLE: Multi-functional transcoder  
for compressed bit streams

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US-CL-CURRENT: 375/240.29, 375/240.03 ,  
375/240.26 , 375/240.28

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Brief Summary Text - BSTX (17):

A method for transcoding compressed digital video data includes the step of **partially decompressing** first compressed digital video data to provide first intermediate reconstructed data having an associated first format. The format may include one or more of the following characteristics: frame size, frame rate, color space sampling format (i.e., sampling ratio), interlaced or progressive scan, resolution (e.g., high-definition or standard definition), and noise filtering status (e.g., whether the data is noise filtered or not, and if so, the amount and type of noise filtering).

Claims Text - CLTX (1):

1. A method for transcoding compressed digital video data, comprising the steps of: **partially decompressing** first compressed digital video data to provide first intermediate reconstructed data having an associated first format; providing a post-pre-processing engine having a plurality of different available processing functions; providing a first selection signal for selecting at least one of said processing functions; processing said first intermediate reconstructed data according to said at least one selected processing function to provide corresponding first modified intermediate reconstructed data having a first modified format that is different than said first format; and compressing the first modified intermediate reconstructed data to provide first modified compressed digital video data with said first modified format.

Claims Text - CLTX (15):

15. The method of claim 1, wherein said method is adapted for transcoding a plurality of bit streams of compressed digital video data, comprising the further steps of: **partially decompressing** second compressed digital video data to provide second intermediate reconstructed data having a second format that is different than said first format; providing a second post-pre-processing engine having an associated plurality of different

available processing functions; providing a second selection signal for selecting at least one of said processing functions of said second post-pre-processing engine; processing said second intermediate reconstructed data according to said at least one selected processing function of said second post-pre-processing engine to provide corresponding second modified intermediate reconstructed data having said first modified format; and compressing the second modified intermediate reconstructed data to provide second modified compressed digital video data with said first modified format.

Claims Text - CLTX (17):

17. An apparatus for transcoding compressed digital video data, comprising:  
means for **partially decompressing** first compressed digital video data to provide first intermediate reconstructed data having an associated first format; a post-pre-processing engine having a plurality of different available processing functions; means for providing a first selection signal for selecting at least one of said processing functions; wherein said post-pre-processing engine processes said first intermediate reconstructed data according to said at least one selected processing function to provide corresponding first modified intermediate reconstructed data having a first modified format that is different than said first format; and means for compressing the first modified intermediate

reconstructed data to provide first modified compressed digital video data with said first modified format.

Claims Text - CLTX (31):

31. The apparatus of claim 17, wherein said apparatus is adapted for transcoding a plurality of bit streams of compressed digital video data, further comprising: means for **partially decompressing** second compressed digital video data to provide second intermediate reconstructed data having an associated second format that is different than said first format; a second post-pre-processing engine having an associated plurality of different available processing functions; means for providing a second selection signal for selecting at least one of said processing functions of said second post-pre-processing engine; wherein said second post-pre-processing engine processes said second intermediate reconstructed data according to said at least one selected processing function of said second post-pre-processing engine to provide corresponding second modified intermediate reconstructed data having said first modified format; and means for compressing the second modified intermediate reconstructed data to provide second modified compressed digital video data with said first modified format.

Claims Text - CLTX (33):

33. A method for transcoding first compressed digital video data,

comprising the steps of: **partially decompressing** the first compressed digital video data to provide first intermediate reconstructed data having an associated first format; providing a post-pre-processing engine having a plurality of different available processing functions; providing a selection signal for selecting at least one of said processing functions; processing said first intermediate reconstructed data according to said at least one selected processing function to provide corresponding first modified intermediate reconstructed data having a first modified format that is different than said first format; and compressing the first modified intermediate reconstructed data to provide first modified compressed digital video data with said first modified format; wherein: said plurality of different available processing functions perform at least one of: (a) processing said first intermediate reconstructed data with a noise-reduction filter; (b) providing said first modified intermediate reconstructed data with a different resolution than a resolution of said first intermediate reconstructed data; (c) providing said first modified intermediate reconstructed data with an interlaced scan format when said first intermediate reconstructed data has a progressive scan format; (d) providing said first modified intermediate reconstructed data with a progressive scan format when said first intermediate reconstructed data has an interlaced scan format; (e)

providing said first modified intermediate reconstructed data with a color space sampling format that is different than a color space sampling format of said first intermediate reconstructed data; (f) providing said first modified intermediate reconstructed data with a frame rate that is different than a frame rate of said first intermediate reconstructed data; and (g) providing said first modified intermediate reconstructed data with a frame size that is different than a frame size of said first intermediate reconstructed data.

Claims Text - CLTX (34):

34. An apparatus for transcoding first compressed digital video data, comprising: means for **partially decompressing** the first compressed digital video data to provide first intermediate reconstructed data having an associated first format; a post-pre-processing engine having a plurality of different available processing functions; means for providing a selection signal for selecting at least one of said processing functions; wherein said post-pre-processing engine processes said first intermediate reconstructed data according to said at least one selected processing function to provide corresponding first modified intermediate reconstructed data having a first modified format that is different than said first format; and means for compressing the first modified intermediate reconstructed data to provide first modified compressed digital video data with said

first modified format;  
wherein: said plurality of different available  
processing functions perform at  
least one of: (a) processing said first  
intermediate reconstructed data with a  
noise-reduction filter; (b) providing said first  
modified intermediate  
reconstructed data with a different resolution than  
a resolution of said first  
intermediate reconstructed data; (c) providing  
said first modified  
intermediate reconstructed data with an interlaced  
scan format when said first  
intermediate reconstructed data has a progressive  
scan format; (d) providing  
said first modified intermediate reconstructed data  
with a progressive scan  
format when said first intermediate reconstructed  
data has an interlaced scan  
format; (e) providing said first modified  
intermediate reconstructed data with  
a color space sampling format that is different  
than a color space sampling  
format of said first intermediate reconstructed  
data; (f) providing said first  
modified intermediate reconstructed data with a  
frame rate that is different  
than a frame rate of said first intermediate  
reconstructed data; and (g)  
providing said first modified intermediate  
reconstructed data with a frame size  
that is different than a frame size of said first  
intermediate reconstructed  
data.

Current US Original Classification - CCOR (1):

**375/240.29**

Current US Cross Reference Classification - CCXR  
(1):

**375/240.03**

Current US Cross Reference Classification - CCXR  
(2):

**375/240.26**

Current US Cross Reference Classification - CCXR  
(3):

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